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(54) Title: INTERACTIVE ADVERTISING SYSTEM AND DEVICE
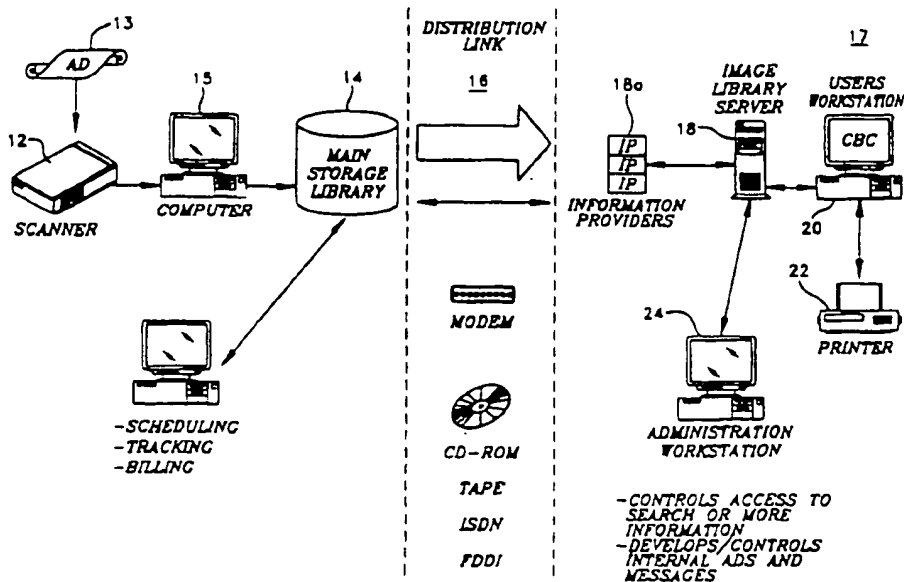
(57) Abstract

A device for generating and displaying a message (13) is disclosed. The present invention comprises a computer memory (14) for storing the ad, message and searchable database (13) in a memory, a distribution link (16) for transmitting the ad, message and searchable database (13) to a remote location (18) for storing said message (13), and means (24) associated with an end user workstation (20) at the remote location (18) for retrieving said ad, message and searchable database (13) and displaying same on a crt monitor associated with the workstation (20) at a time when the workstation (20) is not in use.

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- 1 -

INTERACTIVE ADVERTISING SYSTEM AND DEVICE

FIELD OF THE INVENTION

The present invention is directed to a messaging and imaging system designed to be placed on a Local Area Network 5 (LAN) and which appears on a local CRT monitor. In particular, the present invention is directed to a system which can be utilized to display images or messages on a CRT screen as well as provide a searchable database for interactive activities such as catalog shopping.

10   ### BACKGROUND OF THE INVENTION

Recently, a two-way, high speed, high volume, information "superhighway" has begun to evolve which has the potential to reach every American home and business. It is anticipated that this electronic information superhighway could 15 generate as much as 321 billion dollars in new net GNP growth over the next sixteen years within the United States.

The substantial deployment of fiber optics by telephone and CATV companies has created an infrastructure capable of transmitting billions of bits of data per second through these 20 networks. Advancements in digital video compression technologies further make it practical to digitize and send high-quality full motion video in addition to audio, text and graphics over these networks.

The confluence of digital signal processing, 25 microelectronics and electro-optic technologies will permit the deployment of interactive switched digital broadband networks and the distribution of two-way, real time, interactive programming and services. As the cost of data storage and processing is

reduced, these networks will become increasingly cost effective, providing unlimited opportunities for businesses to develop new products and services and to deliver their current offerings more efficiently.

5   One of the biggest opportunities which exists for data and information transmission over this superhighway is the potential for the transmission of data, messages and information to computer terminals and monitors during their inactive periods. Such transmissions could include advertisements, printable 10 coupons and interactive database search features. Such a system could further perform the function of a screen saver.

          Screen savers have been in existence since the mid-1980's. Screen savers were developed to prevent a phosphor image from being burned onto a CRT screen during prolonged periods of 15 non-usage. Typically, a screen saver comprises a prestored multi-media presentation which comes onto the screen after a prescribed period of non-usage by the user. Screen savers reside in the system software and use approximately 100 kilobytes of RAM. Screen savers often provide an eye-pleasing color pattern 20 of random geometric shapes.

          U.S. Patent No. 5,105,184 entitled Methods For Displaying An Integrating Commercial Advertisements For Computer Software discloses a system directed to adding commercial advertisements for different screen types. In this patent, the 25 advertisements are hard coded into the software. The hard coded advertisements further do not function as screen savers and the system is not interactive. Further, in this embodiment, the software developer gets the revenue for placing the advertisement rather than the network owner.

30   It would be desirable to provide a message transmission system which could be both an interactive and searchable database and function as a screen saver. The present invention is directed to a device for providing on-line interactive advertising or messaging which can perform the function of a 35 screen saver. In accordance with the present invention, a series of logos, messages, or advertisements are, for example, transmitted to the computer display when a computer is left inactive for a set period of time. In this respect, the present

invention functions as a screen saver and prevents screen damage. The present invention is thus directed to a system and technology for placing messages such as advertisements on a local terminal during periods when the terminal is not in use. These and other
5 objects of the present invention will become apparent from the summary and detailed description which follow.

SUMMARY OF THE INVENTION

In accordance with the present invention a device for displaying an interactive message is disclosed. The device
10 comprises: means for storing said message in a memory means associated with a central station; means for distributing said message from said central station to a local workstation; and means associated with a local workstation for displaying said image during an inactive period of said workstation.
15   In a more preferred embodiment, the present invention is directed to a device for generating and displaying an interactive message comprising; means for generating said interactive message at a central station; means for storing said message in a central memory at said central station; means for
20 distributing said message from said central memory to a remote location; means for storing said message at said remote location; and   display means associated with an end user workstation for retrieving said message and displaying said message during an inactive period of said workstation.
25   In yet a further embodiment, the present invention comprises means for generating a message; means for storing said image in a computer memory;   distribution means for distributing said stored message to a local end user workstation; means for storing said distributed message on a file server associated with
30 a local user workstation; means for displaying said message on a CRT screen associated with said end user workstation during an inactive period of said workstation.

BRIEF DESCRIPTION OF THE FIGURES

Figure 1 is a block diagram of a message transmission
35 and display system in accordance with the present invention.
Figure 2 is a network diagram of the message

transmission and display system of the present invention.

Figure 3 is a state diagram of the message transmission and display system of the present invention.

Figure 4 is an event diagram in accordance with the 5 present invention.

Figure 5 is a flow diagram which illustrates the flow of advertiser information flow diagram in accordance with the present invention.

Figures 6 through 8 illustrate window graphical user 10 interfaces for use in accordance with the present invention.

DETAILED DESCRIPTION OF THE PRESENT INVENTION

The present invention is described with reference to the enclosed Figures wherein the same numbers are used where applicable. In a broadest embodiment, the present invention is 15 directed to a device and system for storing and transmitting messages and images to a local workstations so that the messages and images are displayed on the local workstation. The messages so displayed may be transmitted by a distribution means such as a modem or FDDI link to a single local workstation or, 20 alternatively, by a computer network to a plurality of local workstations.

The messages, which may comprise advertisements, are displayed over the local workstations during periods when the local terminal or CRT is not being utilized. In this way, the 25 messaging system of the present invention performs the function of a screen saver thus preventing the burning of a phosphor image into the computer screen and the damage to the monitor.

Referring to Figure 1, a block diagram of the message distribution and system of the present invention is shown. In 30 broad terms, the present invention comprises means 12 for placing an advertisement or message 13 into a central or main computer library 14 via a compiler 15. In a preferred embodiment, means 12 comprises an ORC scanner or similar device. The distribution system of the present invention further includes means 16 which 35 links the main computer library 14 and a local customer 17 and end user workstation 20.

As shown in Figure 1, the network customer 17 will have
on the local site, for example, an image library server 18, an
end user workstation 20 and a printer 22. The printer 22 may be
utilized for selectively printing out the image, message or
5 coupon. In a preferred embodiment, the local system and
workstation 20 will be under the control of an administration
workstation 24 which will control access to more information and
develops or controls internal advertisements and messages for
distribution to workstation 20.

10   The distribution means 16 of the present invention may
comprise a number of data transmission systems including a modem,
CD-ROM diskette, ATM (Asynchronous Transfer Mode), ISDN or FDDI
communication link. Initially, an advertisement or message to
be displayed at the local user workstation 20 is scanned by
15 optical scanner 12 into a computer compiler 15 at the central
station 11. The message is then stored in main storage library
14 at the central station 11.

          The stored images or messages may comprise, for
example, still and/or multi-media advertising messages or images
20 such as an advertisement for a newspaper such as the *Asbury Park
Press* or products such as COCA-COLA® or PEPSI-COLA®. The images
or messages are then distributed from the central location by
distribution means 16. In a preferred embodiment, the
distribution means of the present invention comprise, for
25 example, a modem, CD-ROM diskette, ISDN or FDDI communication
link or ATM (Asynchronous Transfer Mode). The images, messages
and searchable database will be stored by the local image library
18.

          When the user's workstation 20 is not in use for a
30 predetermined period of time, the message, which may be an
advertisement, will automatically be transmitted onto the screen
of the local workstation 20. The message will be served by an
image library server 18 in association with the administration
workstation 24. The administration workstation controls the flow
35 of the images or messages, controls internal ads and messages
which may be locally input onto the system, and controls access
to the searchable database.

        In a preferred embodiment, the advertisements will be
relatively brief in content and may have some type of animation
such as a cartoon character in overalls "putting up" the
billboard. Advertisers will be able to choose the companies to
5 which they advertise. Conversely, companies will be able to
block advertisements (for example, a competitor's advertisements
if they so desire). The advertisers will also be given the
ability to target different employee levels within each company.
These levels could include upper management, staff, sales
10 personnel, clerical/administrative, etc. This feature would rely
on the extent of the companies' computer network and willingness
to allow such selective advertising.

        Furthermore, companies will be given the ability to
advertise their own products and services internally as well as
15 create and display messages announcing the latest corporate news
such as birthdays, promotions, etc. The software will track how
often and how long each external advertisement is played at each
client site and the advertiser will be billed accordingly. A
certain percentage of the collected fees will be passed through
20 to each client, based on usage, thus creating a revenue stream.

        Referring to Figure 2, a network system in accordance
with the present invention is disclosed. In this system, a main
storage library 14 serves a plurality of companies or
organizations. The main storage library 14 is in communication
25 with a series of companies or organizations within the network.
Each company in the network will be served by a local library
server 18 with stored images, messages such as advertisements and
a searchable database. Each company within the system will
typically have an administration workstation 24 and general file
30 server 32. The administration workstation 24 permits the
addition of site specific messages as well as controlling access
to the searchable database.

        The image library 18 stores and distributes a plurality
of images or messages to the individual workstations within the
35 company and will typically contain data for a plurality of
information providers. The workstations may function in a number
of environments including WINDOWS, MACINTOSH, and OS-2 (20a-c).
From the central library 14, messages may be transmitted or

distributed to a plurality of company locations.

Figure 3 represents a state diagram of a messaging system in accordance with the present invention. In operation, the end user workstation 20 will typically be operating under an
5   application program such as WordPerfect® or LOTUS® or other application programs. If the computer workstation remains idle for a predetermined period of time, the messaging system of the present invention will become activated. Under the present system, messages prestored in the file server will be transmitted
10 to the workstation 20 and shown on the monitor at regular intervals. When the user resumes working at the workstation 20, the message is eliminated and the application program such as WordPerfect® or LOTUS® is reactivated. The present invention also incorporates a search feature whereby new images may be
15 selectively activated by the user at workstation 20.

In addition, there will be some limited interactivity available to the end user under the present invention. Figures 6 through 8 illustrate potential WINDOWS outputs including SEARCH 34, MORE 36 and PRINT 38 features.

20   As stated above, the messages will be brief in content. Many advertisers will be interested in conveying additional information. To that extent, when additional information is available, the MORE button 36 will be active at the bottom of the advertisement. The employee by clicking an input device such as
25 a mouse can pull up another screen that will give additional details from the advertiser. For example, clicking MORE 36 on a car advertisement presented on the system could provide the user with locations of nearby dealerships. A restaurant advertisement could bring up a coupon that could be printed by
30 clicking on the PRINT 38 button at the bottom, right hand corner of the screen. This coupon could then be used as if it had been cut out of a newspaper. A click on a "CONTINUE" button would then take the employee back to the screenshow if so desired, or, by pressing the "SPACEBAR" on the keyboard, the employee would
35 be taken back to work.

If the keyboard is left inactive for the earlier mentioned, predetermined time the screenshow would automatically start back up as a screen saver. A further feature is the

addition of a SEARCH 34 button which is displayed at the bottom,
left hand corner of the screen. This button will allow the user
to search for a particular ad that they might have seen on a
prior day or heard of from someone else.

5   The SEARCH 34 button could be used for more than just
searching for advertisements (external advertisements). It can
be used to search through internal messages/advertisements as
well as for catalog shopping. The catalog shopping could be
divided into two categories: business related and personal. The
10 software will permit companies to determine when their employees
can access the database feature. The company may also choose no
access or unlimited access.

           Referring to Figure 4, an event diagram in accordance
with the present invention is shown and described. As shown,
15 there are four event subparts within the system: (1) a
workstation activity monitor; (2) a screenshow; (3) a desk top
menu; and (4) an information provider application.

           The workstation activity monitor monitors the local
workstation for keyboard activity. When the keyboard is inactive
20 for a specified period of time, the screenshow is activated. The
screenshow will display advertisements or images in a sequence.
The sequence will be managed for each workstation from an
administrative workstation. The desk top menu is a common
platform for information providers and advertisers. The
25 information provider application is, for example, a Yellow Pages
application.

           Referring to Figure 5, a communications information
flowchart is shown. In this example, an advertiser is assumed
to provide images to the XYZ Company. In the pre-interactive
30 mode, the advertiser controls the frequency of the display and
the length of display. The company (XYZ) controls the number of
displays, the length of each display and whose displays will be
shown.

           In an interactive format, the advertiser controls the
35 frequency of display, the length of display and the target user.
The company can control the number of transactions and the number
of interactions.

Figure 6 comprises a menu for a group of applications including Yellow Pages, Apple Computers, Future Vision of American (Assignee of the present invention), and IBM Corp. is displayed. Each application includes catalog information. By 5 accessing the Yellow Pages application, for example, as shown in Figures 7 and 8, the user is shown a new window with a plurality of potential action "yellow page" items such as accountants, chemicals and television repair which can be selected.

The present invention has been described with reference 10 to the enclosed Figures. It is to be appreciated that other embodiments fulfill the spirit and scope of the present invention and that the true nature and scope of the present invention is to be determined with reference to the claims appended hereto.

CLAIMS

What is claimed is:

      1. A device for displaying a message comprising:

      means for storing said message in a memory means
5 associated with a central station;

      means for distributing said message from said central
station to a local workstation; and

      means associated with a local workstation for
displaying said image during an inactive period of said
10 workstation.

      2.   The device of claim 1 wherein said distribution
means comprises a modem.

      3.   The device of claim 1 wherein said distribution
means comprises a CD-ROM diskette.

15   4.   The device of claim 1 wherein said distribution
means comprises a magnetic tape.

      5.   The device of claim 1 wherein said distribution
means comprises an Asynchronous Transfer Mode.

      6.   The device of claim 1 wherein said distribution
20 means comprises an ISDN link.

      7.   The device of claim 1 wherein said distribution
means comprises an FDDI link.

      8.   A device for generating and displaying an
interactive message comprising;
25   means for generating said interactive message at a
central station;

      means for storing said message in a central memory at
said central station;

      means for distributing said message from said central
30 memory to a remote location;

      means for storing said message at said remote location;

and

      display means associated with an end user workstation for retrieving said message and displaying said message during an inactive period of said workstation.

5   9.   The device of claim 8 wherein said message comprises a multi-media message.

      10. A device for selectively displaying an interactive message comprising;

      means for generating a message;

10   means for storing said image in a computer memory;

      distribution means for distributing said stored message to a local end user workstation;

      means for storing said distributed message on a file server associated with a local user workstation;

15   displaying said message on a CRT screen associated with said end user workstation during an inactive period of said workstation.

      11. The device of claim 10 wherein said distribution means comprises a modem.

20   12. The device of claim 10 wherein said distribution means comprises a CD-ROM diskette.

      13. The device of claim 10 wherein said distribution means comprises a magnetic tape.

      14. The device of claim 10 wherein said distribution
25 means comprises an Asynchronous Transfer Mode.

      15. The device of claim 10 wherein said distribution means comprises an ISDN link.

      16. The device of claim 10 wherein said distribution means comprises an FDDI link.

17.   The device of claim 10 further comprising a searchable database for interactive activities such as catalogue shopping.
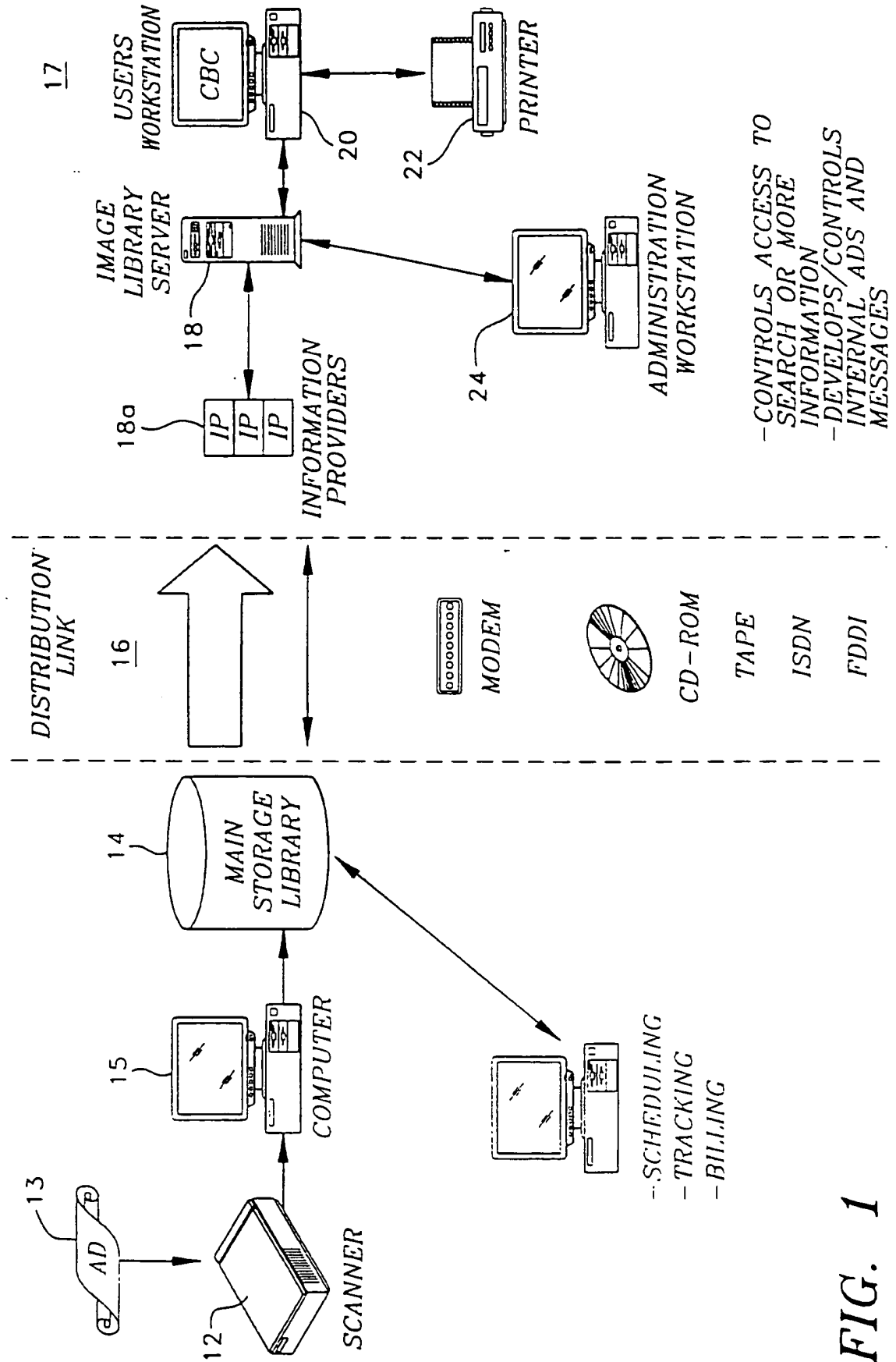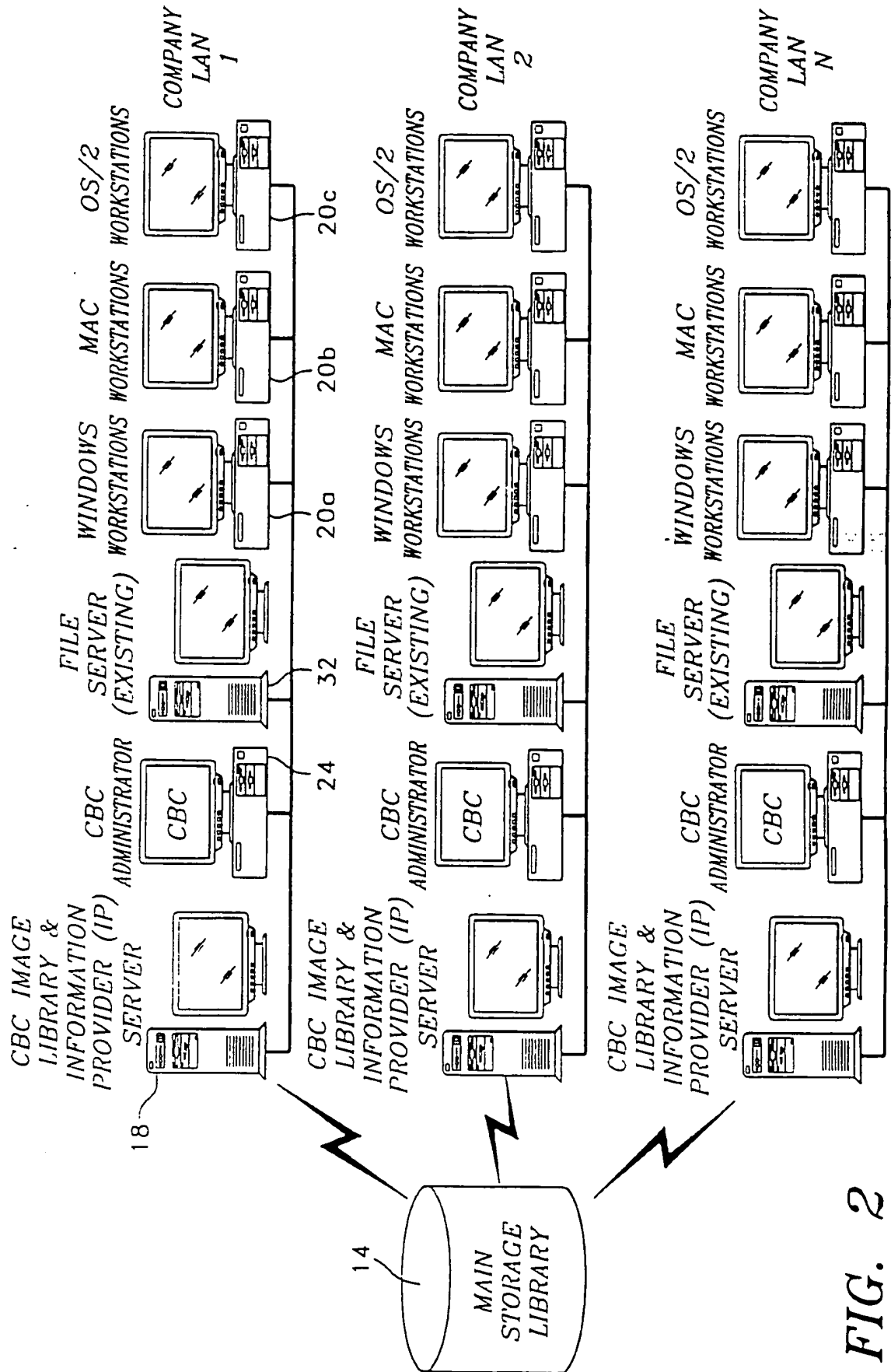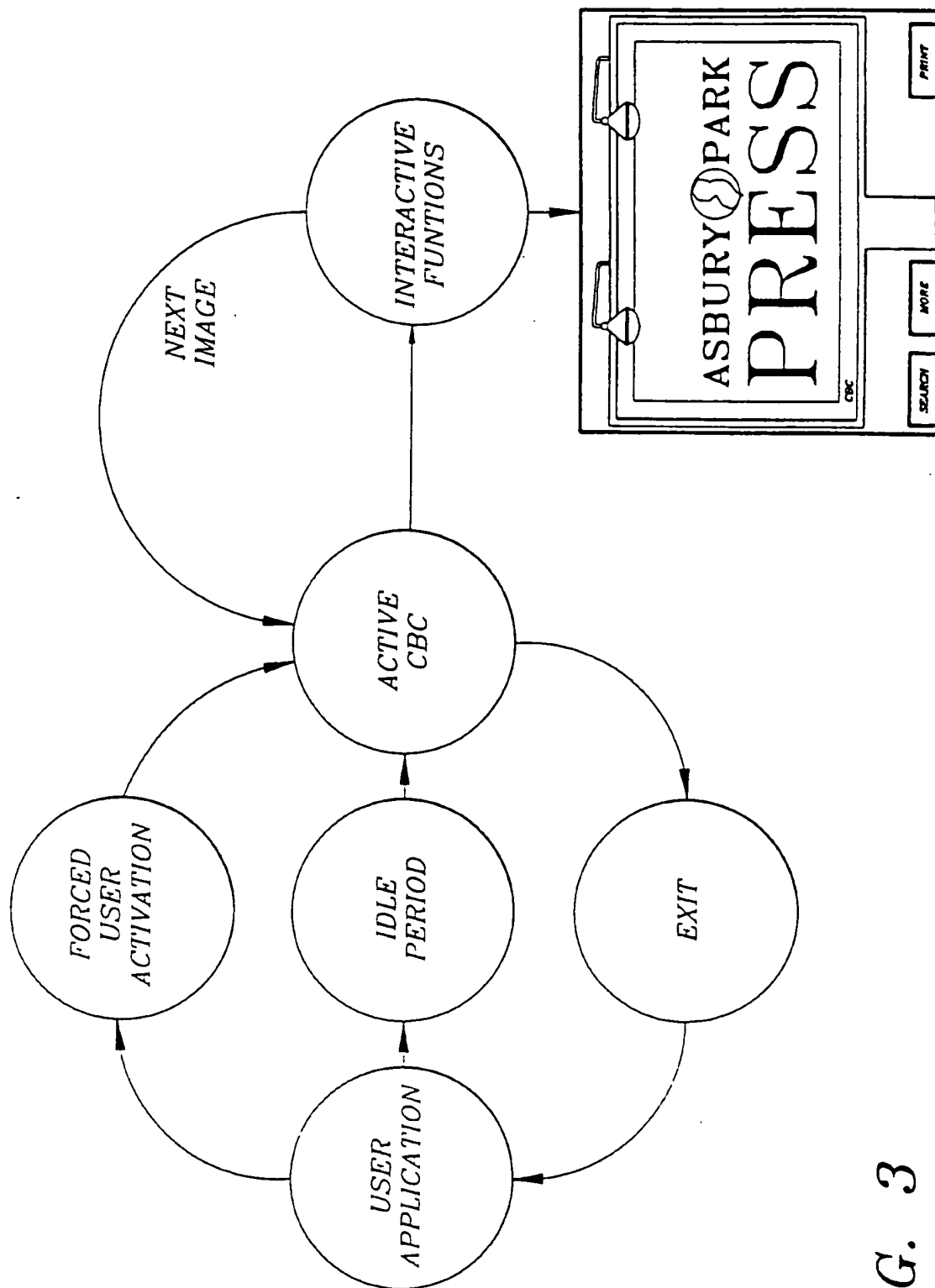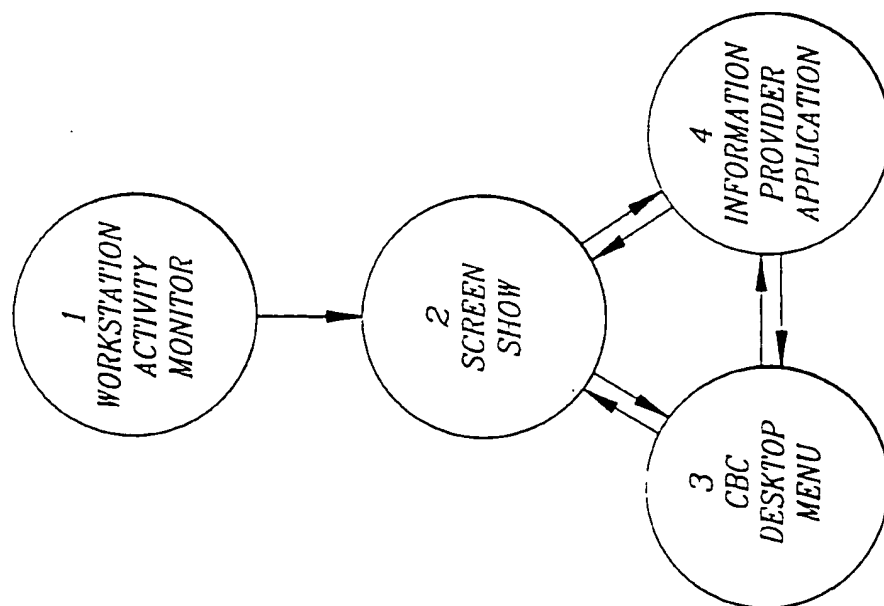
FIG. 1

FIG. 2

FIG. 3

1. Workstation Activity Monitor
   - Monitors local workstation for keyboard activity
   - when keyboard is inactive for a specified period of time, the CBC screen chow is activated.

2. Screen Show
   - The screen show will display advertisement or images in a sequence
   - the sequence will be managed for each workstation from a CBC administrative workstation.

3. CBC Desktop Menu
   - The CBC menu is the common platform for information providers and advertisers.

4. Information Provider Application
   - This is an example of the "Yellow Pages" as an information provider.

FIG. 4

PRE-INTERACTIVE

ADVERTISER

FREQUENCY OF DISPLAY
LENGHT OF DISPLAY

OF DISPLAYS
LENGTH OF DISPLAY
WHOSE DISPLAY

XYZ COMPANY

INTERACTIVE

ADVERTISER

FREQUENCY OF DISPLAY
LENGTH OF DISPLAY
TARGET USER

1. # OF INTERACTIONS
2. # OF TRANSACTIONS

XYZ COMPANY
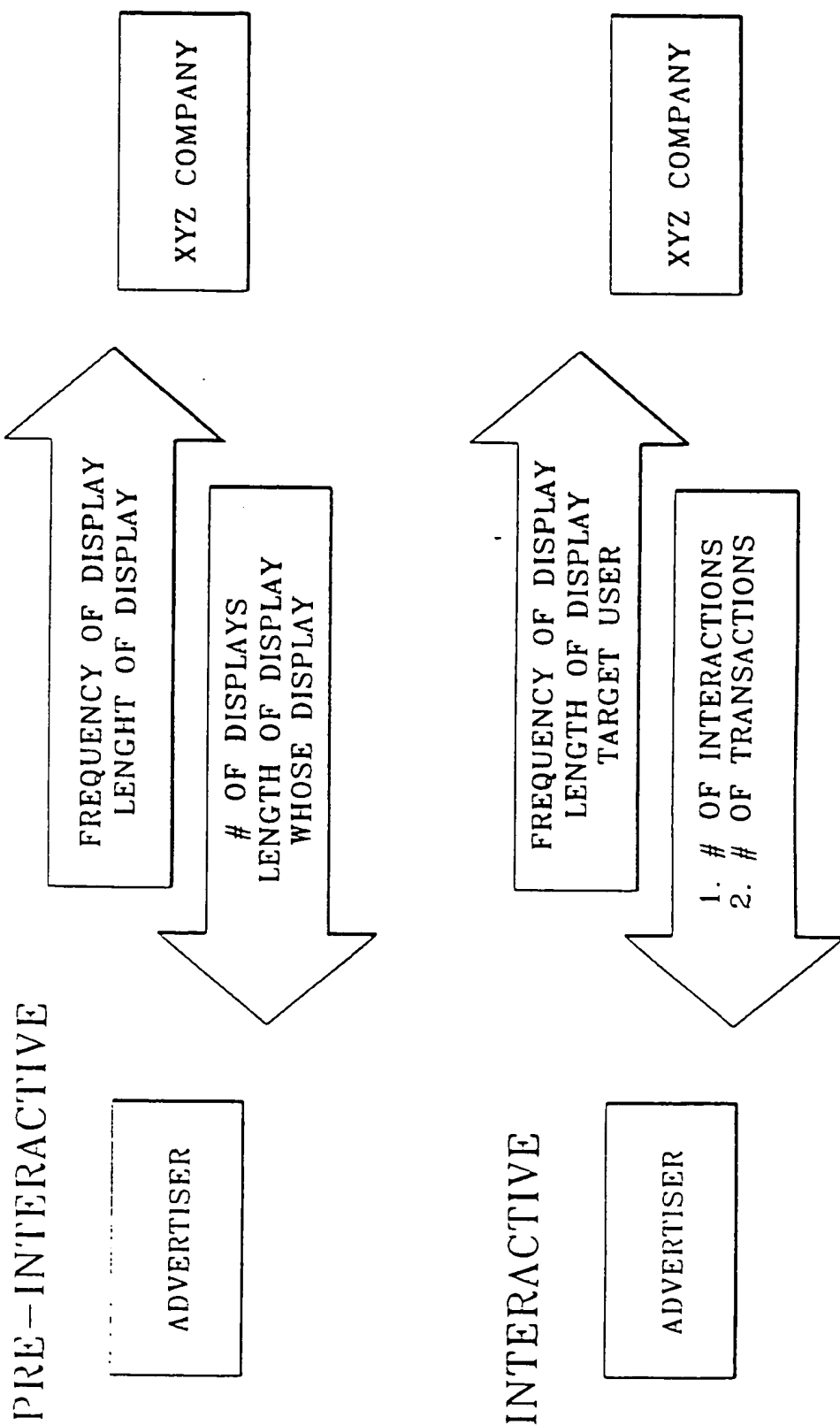
NOTE:
1. ANY BUTTON TOUCHED
2. ANY PRINTED COUPON OR ELECTRONIC PURCHASED

FIG. 5

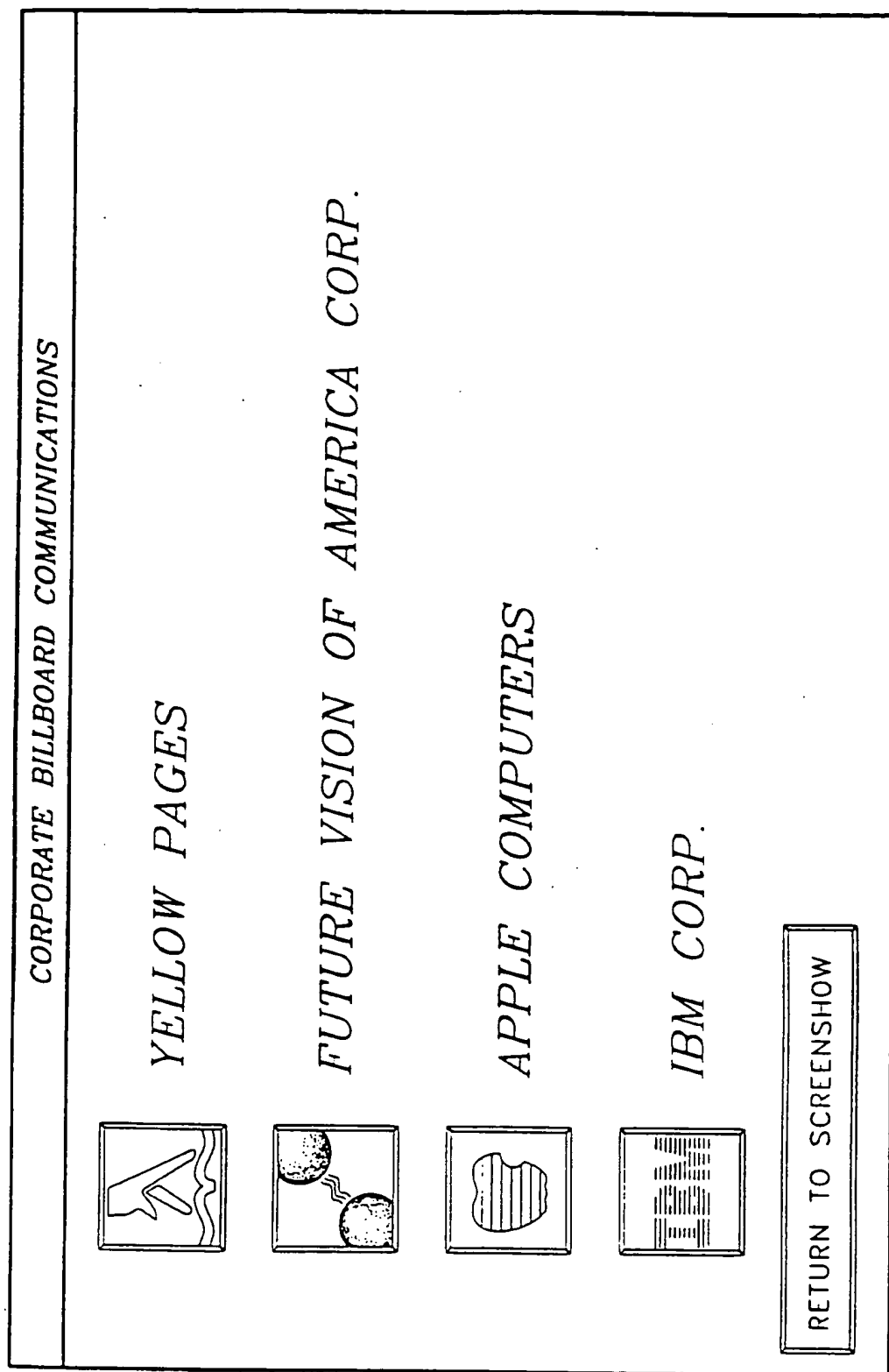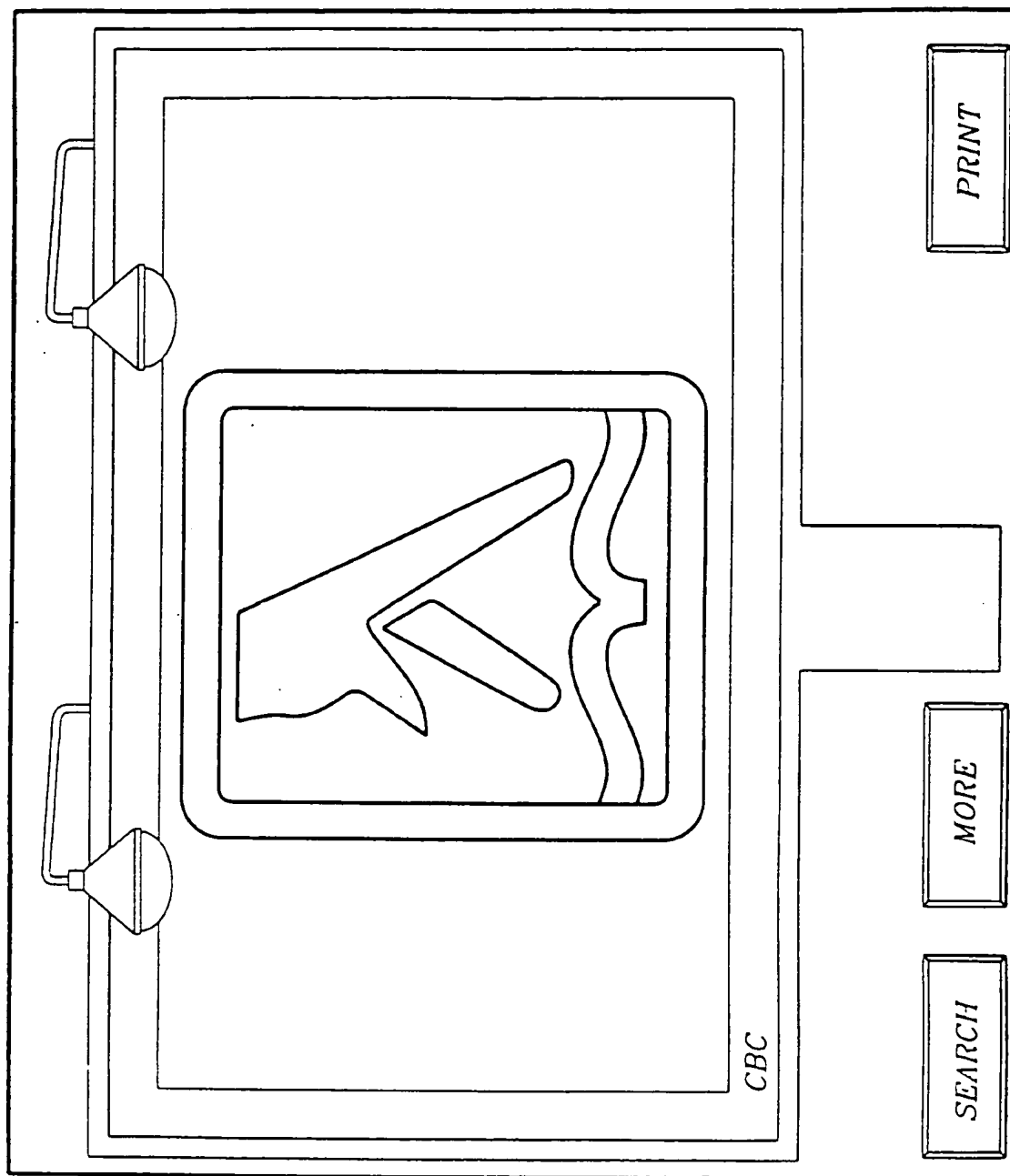CORPORATE BILLBOARD COMMUNICATIONS

YELLOW PAGES

FUTURE VISION OF AMERICA CORP.

APPLE COMPUTERS

IBM CORP.

RETURN TO SCREENSHOW

FIG. 6

FIG. 7
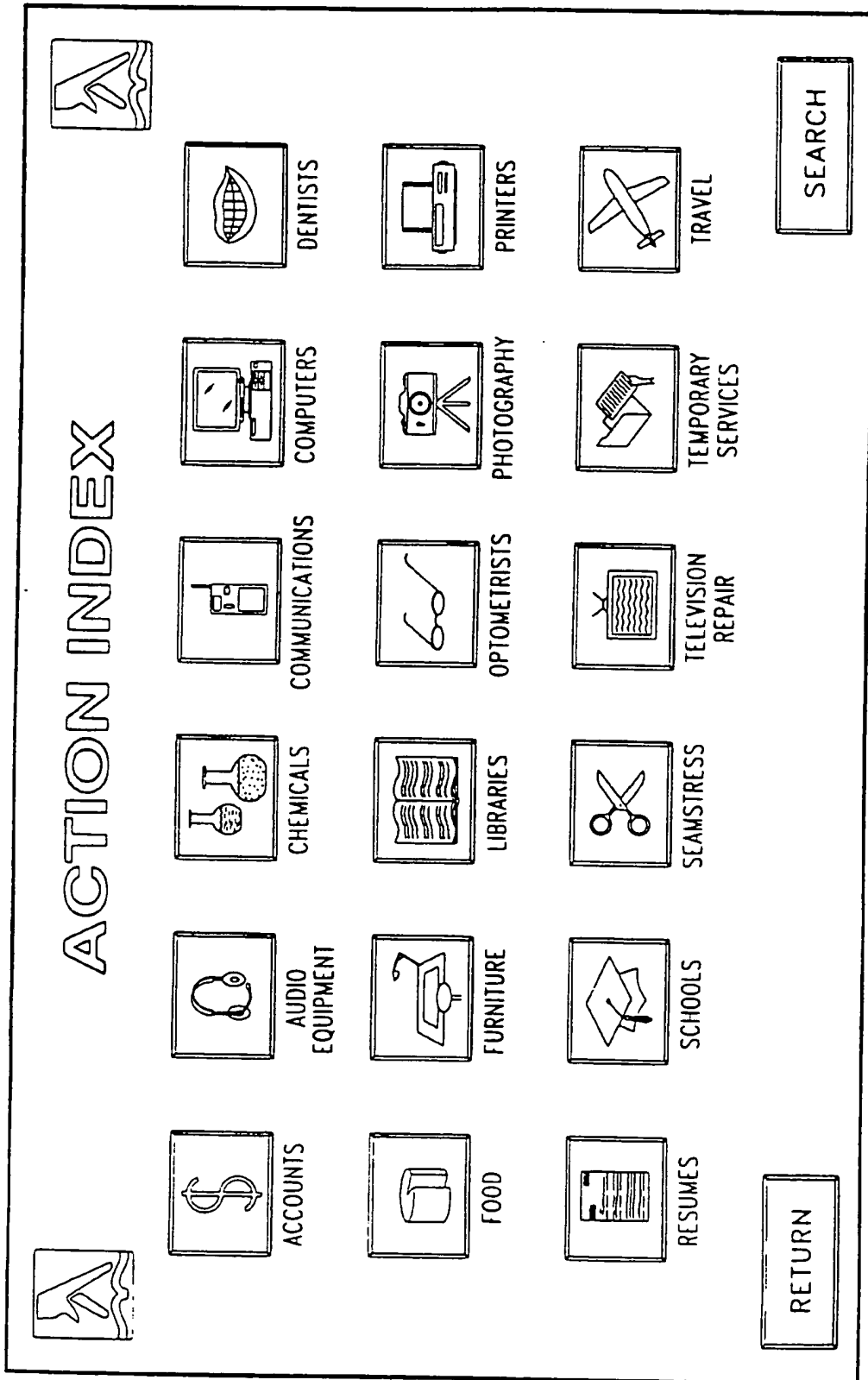
FIG. 8

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US95/03805

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :G06K 13/00

US CL :364/514

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 364/514 ,401; 395/600,650,118,100,114,153,154,155,156,157,159,200; 379/90.

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

APS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US, A, 5,305,195 (MURPHY) 19 April 1994, Abstract and col. 1, lines 1-24 and claims 14,23,24.	1-2, 8-11, 17 --------------- 3-7, 12-16
Y	Operating System Concepts, copyrighted January 1994, Silberschatz et al., pp. 481-482.	3-7 and 12-16
A,E	US, A, 5,327,554 (PALAZZI, III et al.) 05 July 1994.	1-17
Y,E	US, A, 5,347,632 (FILEPP et al.) 13 September 1994, cols. 91-94 and claims 29-33.	1-17
A	US, A, 5,093,718 (HOARTY et al.) 03 March 1992.	1-17

[X] Further documents are listed in the continuation of Box C.   [ ] See patent family annex.

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be part of particular relevance		
"E"	earlier document published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed	"&"	document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
15 MAY 1995	28 JUL 1995

| Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 | Authorized officer

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| Facsimile No. (703) 305-3230 | Telephone No. (703) 305-3800 |

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US, A, 5,325,423 (LEWIS) 28 June 1994.	1-17
A	US, A, 5,105,184 (PIRANI) 14 April 1992.	1-17
A	US, A, 5,027,400 (BAJI et al.) 25 June 1991.	1-17
A	US, A, 5,220,420 (HOARTY et al.) 15 June 1993.	1-17